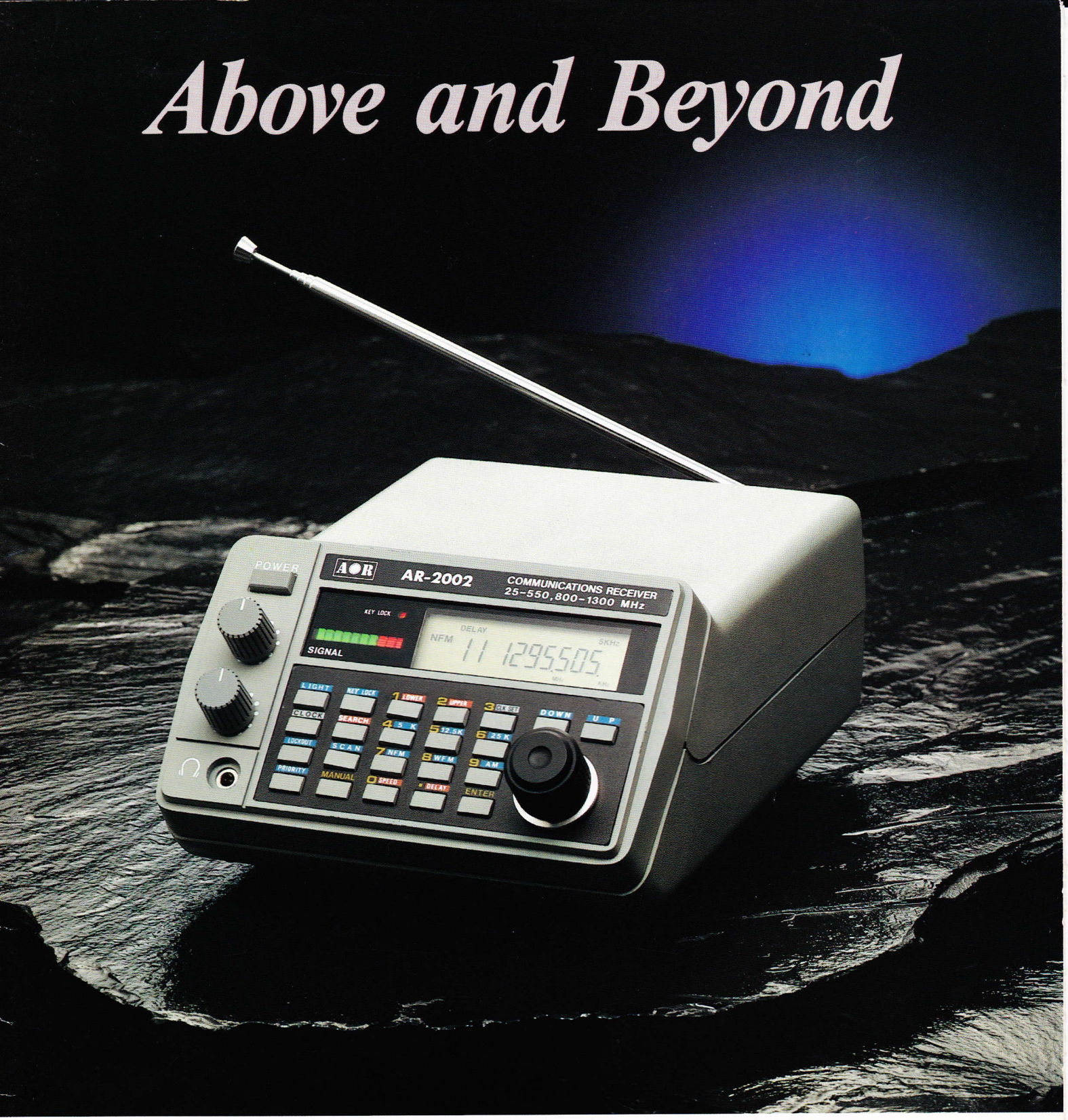
Above and Beyond

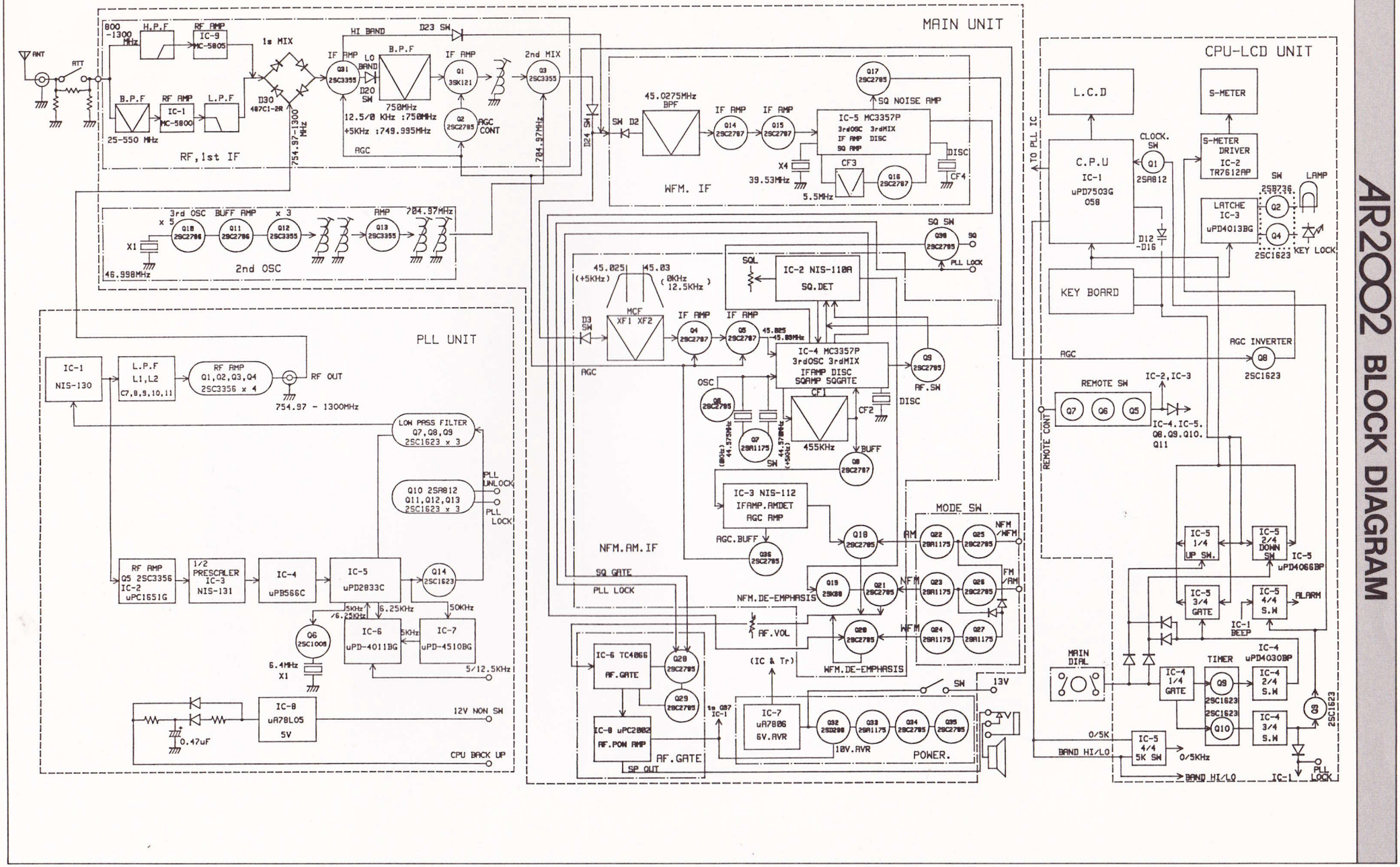


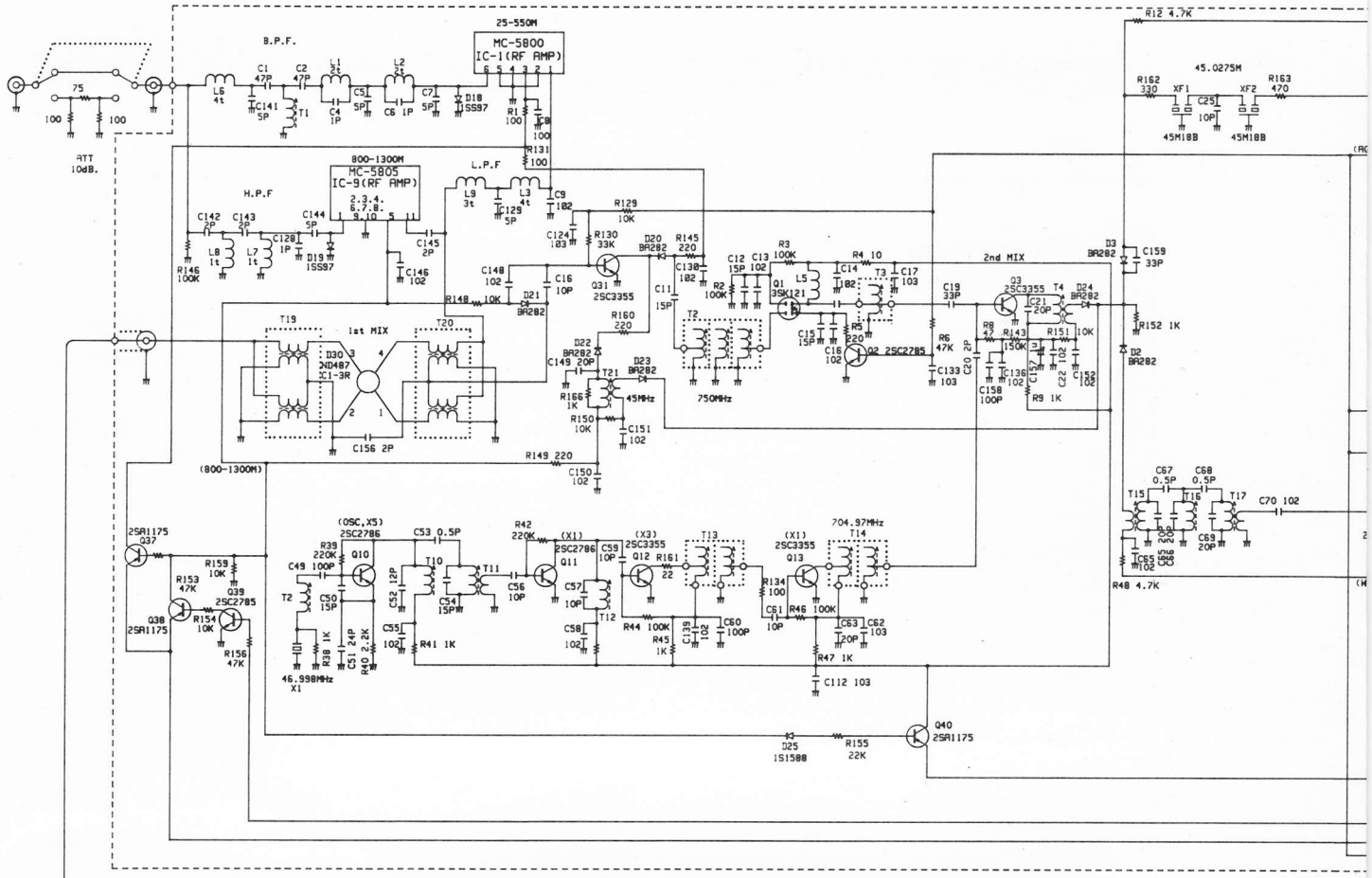
25~550MHz/800~1300MHz

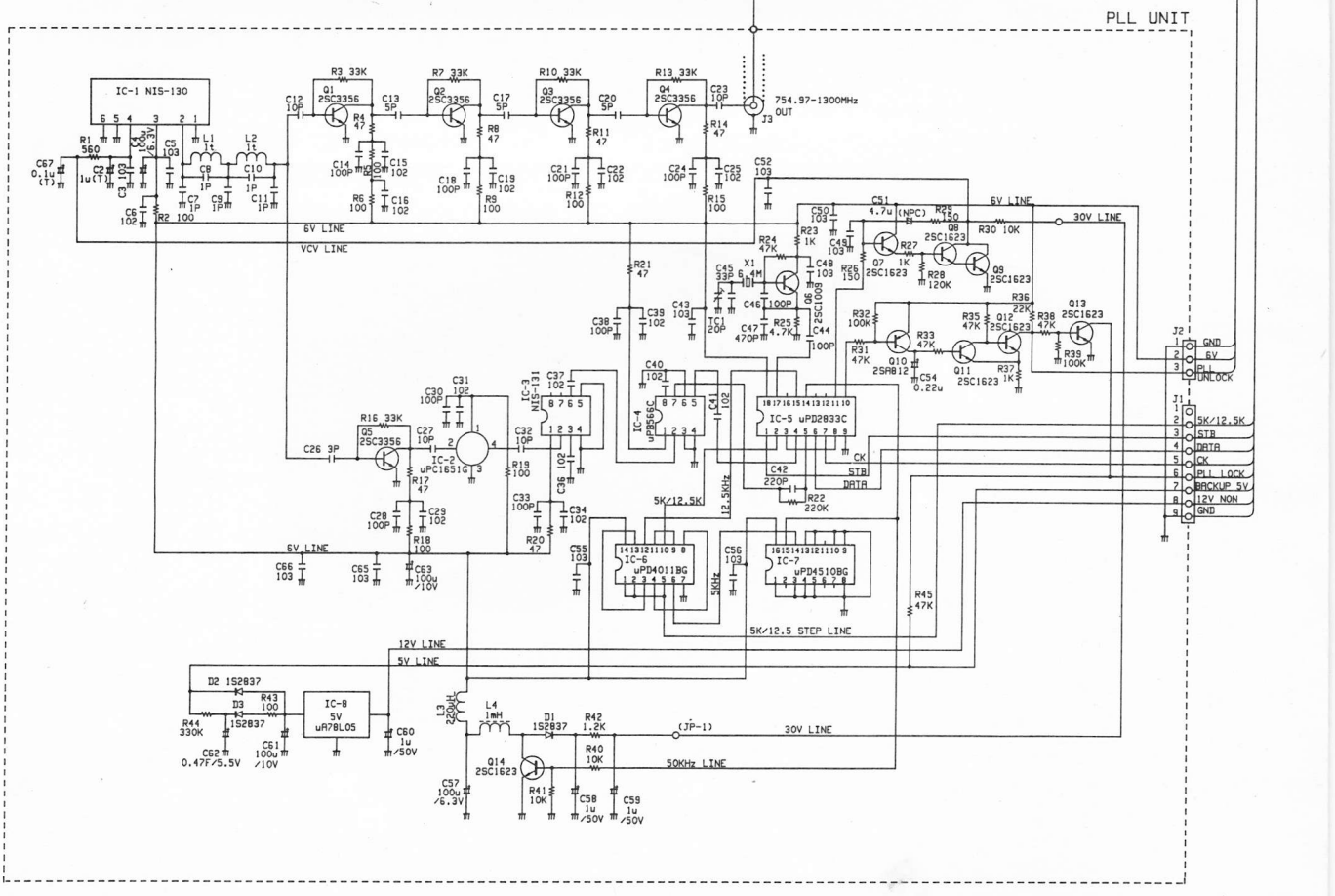
PROFESSIONAL MONITOR RECEIVER

AR2002

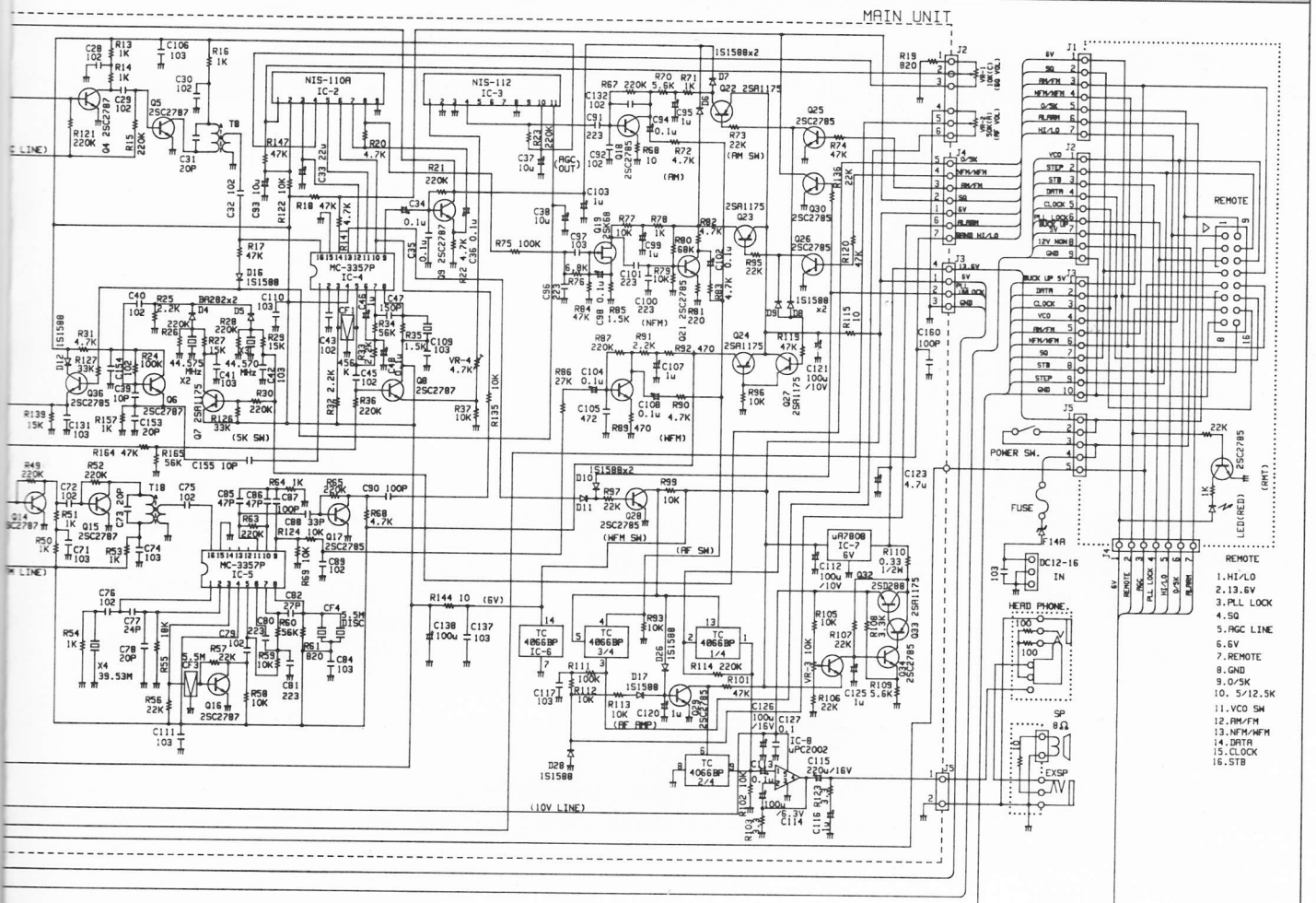
AR2002 BLOCK DIAGRAM

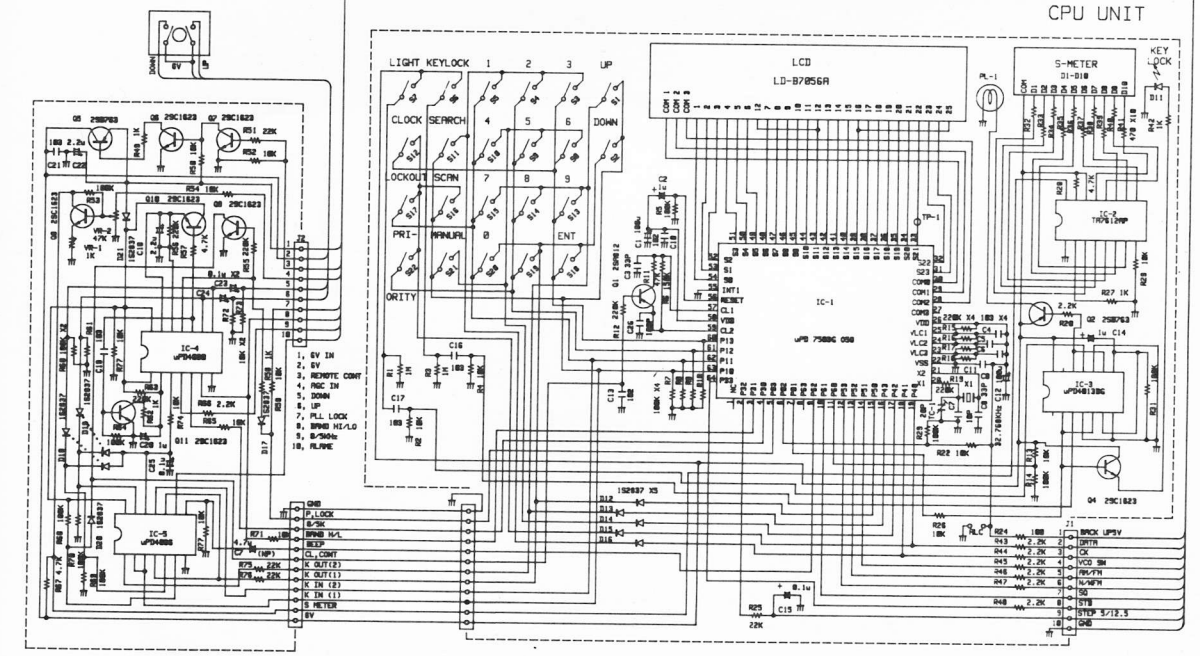



B.P.F.
25-550M
MC-5800
IC-1(RF AMP)
ATT
10dB.
800-1300M
MC-5805
IC-9(RF AMP)
H.P.F
L.P.F
1st MIX
2nd MIX
T19
T20
T1
T2
T3
T4
750MHz
45MHz
45.0275M
XF1
XF2
45M18B
(OSC,X5)
2SC2786
(X1)
(X3)
2SC3355
704.97MHz
46.998MHz
(800-1300M)
2SA1175
2SC2785
1SS97
1S1588
BA282


PLL UNIT
IC-1 NIS-130
754.97-1300MHz
OUT
VCV LINE
6V LINE
30V LINE
5K/12.5K
STB
DATA
CK
PLL LOCK
BACKUP 5V
12V NON
GND
IC-2 uPC1651C
IC-3 NIS-111
IC-4 uPB566C
IC-5 uPD2833C
IC-6 uPD4011BG
IC-7 uPD4510BG
IC-8 5V uA78L05
5K/12.5 STEP LINE
12V LINE
5V LINE
50KHz LINE
12.5KHz
5KHz

MATIC DIAGRAM





NAME: SCHEMATIC DIAGRAM AR-2002		REVISED.
	DATE:	1
AOR, LTD.	11.SEPT.1985	2
	DRAWN BY: F.HAYASIBARA	3
		4

AR2002

VHF & UHF monitoring & surveillance

The AR2002 receiver provides high performance monitor and surveillance reception over a wide frequency range; 25 ~ 550MHz and 800 ~ 1300 MHz.

The wide frequency coverage, combined with reception modes of AM, FM (wide), and FM (narrow), make the AR2002 a versatile unit for a range of applications: –

- General off air monitoring
- Spot frequency monitoring/measurement
- Selective multi frequency analysis
- Spectrum surveillance
- Detection of unwanted transmission

. . . . . and much more.

The two frequency ranges are covered in selectable increments of 5, 12.5, or 25kHz, and any mode of reception can be used at any frequency or channel spacing.

Typical measured sensitivity (FM narrow), is better than 0.3 microvolts for 12dB SINAD, and the sensitivity is maintained across the tuning range.

Control of the AR2002 is either from a professional (non membrane) keyboad allied to a front panel tuning control which allows conventional rotary up/down tuning; or by external control, an interface outlet being provided on the rear panel of the receiver.

Twenty memory channels are provided, with easy keyboad entry and recall. Each memory channel stores frequency and mode information without any restrictions. The memories can be recalled manually, or may be automatically scanned in sequence for unattended monitoring.

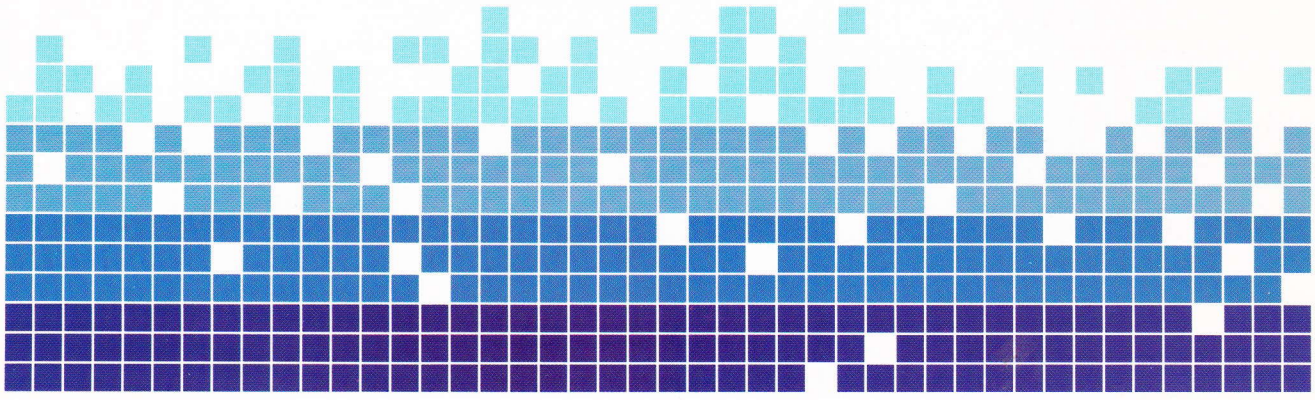
The complete frequency coverage of the receiver can be scanned in 5, 12.5 or 25kHz steps, and a further facility is the ability to search between two user programmed limits with high to low, or low to high searching.

A comprehensive search facility between two user designated frequencies is included. Two speeds of search are available as is the receiver's ability to scan frequencies from low to high, or high to low. So that nothing is missed a delay function can be switched in to cope with the slight delay pause between transmissions when listening to a two way simplex conversation. Carrying on the receiver's ability to miss nothing memory channel 1 holds the priority frequency which is monitored at 2 second intervals.

Front panel readout of information is by liquid crystal display which shows frequency, mode, memory channel number, frequency increment, delay engaged, channel lockout, etc. A bar type signal strength meter allows comparative measurements to be made, and aids in direction finding applications.

A crystal controlled real time clock is provided in the AR2002, and time readout is also by the liquid crystal front panel display.

Power requirements for the AR2002 are 12 ~ 14V DC at 0.3 ~ 0.5A, and a suitable mains adaptor is included with the set, as is a power lead to allow operation from a battery or other power source.



AOR

Authority On Radio Communications

Specifications

Receiver coverage	25 ~ 550MHz/800 ~ 1300MHz
Receiver sensitivity	Narrow band FM 0.35uV (12dB SINAD)
	Wide band FM 1.0uV (12dB SINAD)
	AM 1.0uV (10dB S/N)
Receiver selectivity	NFM +/−7.5kHz @ 6dB
	+/−20kHz @70dB
	WFM +/−50kHz @ 6dB
	+/−250kHz@60dB
	AM +/−5.0kHz @ 6dB
	+/−10kHz @70dB
Number of memory channels	20
Receiver circuitry	PLL synthesizer/high level DBM
I.F. frequencies	750MHz, 45.03MHz, 5.5MHz (WFM)
	455kHz (NFM/AM)
Scan rate	5 channels/second
Search rate	6 seconds/MHz
Antenna connector	50 ohm BNC
Audio output	1 watt at less than 10% distortion
Power requirement	12/14 volts DC at 300 ~ 500mA
Display	Liquid crystal
Dimensions	138mm wide × 80mm high × 200mm long
Weight	1.2kg

Supplied accessories

AC power supply
12/14 volt DC lead
Telescopic antenna

AOR, LTD. TOKYO JAPAN